of your wonderful orange blossoms. Figuratively speaking, however, there is as much pleasure in the appreciation of a hidden thyroid inadequacy as in the enjoyment of one of your incomparable oranges.

Let us cultivate our sense of discernment so that cases of this kind will not slip by unnoticed again.

ORAL HYGIENE FROM AN EDUCATIONAL AND ECONOMIC VIEWPOINT.

By GUY S. MILLBERRY, D. D. S., San Francisco.

Amongst thinking men to-day, dentistry is viewed as a specialty in the broad field of medicine even though the dentist does not usually receive his training in a medical school. The reason for that, I believe, is directly due to the refusal on the part of the Faculty of Medicine in the University of Maryland in 1839 to introduce the teaching of dentistry into their school and the subsequent organization of the Baltimore College of Dental Surgery.

It is not such a far cry to look back seventy-five years to the organization of the first dental college in the world, but in that brief space of time American dentistry has achieved a distinction which has added laurels to that group of commonwealths we are proud to call our country.

I do not wish to imply, however, that all dentistry as practiced in America by Americans is such as would warrant or sustain this distinction; in fact, I believe, that we are now on the brink of an epoch in dentistry when more will be demanded and expected of the dentist by you and by the laity than has ever been demanded or expected before.

Many of you listened to Dr. Frank Billings of Chicago in his recent course of lectures at Stanford Medical School. Do you remember his statement that, barring skin and venereal disease, the largest percentage of diseases that flesh is heir to find their origin in that small area which is now entrusted to the care of the rhinologist and the dentist, and do you realize what an immense amount of work is to be done by these men if preventive medicine and preventive dentistry are to become the leading factors in the healing art?

Preventive medicine is largely accomplished by the enforcement of federal, State and municipal ordinances, by sanitation and by rules for health initiated and enforced by trades unions, etc., amongst the industrial class. Preventive dentistry is largely a question of individual service. Many dentists insist on recurring visits at regular stated intervals for prophylactic and preventive work, while the patient, as a rule, does not visit the physician's office regularly to determine his state of health. The insurance companies are doing something along this line in annual medical examinations. The only other possible solution of the problem is the inauguration of prophylactic measures in certain social groups, and the regulation of the diet; the former has not received the full endorsement of public opinion as yet, and the latter insofar as dental caries is concerned has not been investigated far enough to furnish us with dependable information. Therefore, the problem seems to me to be an economic one, in which education plays an important part.

Dental caries, per se, is essentially a children's disease; the sequelae, alveolar abscesses, necrosis, malocclusion, etc. which occur in adult life may frequently be traced to the inception of caries in childhood and its subsequent recurrence until pulp involvement ensues.

Prophylactic measures instituted in early childhood are conceded by most dentists to be the best procedure in preventing the recession of gums, and the formation of food pockets which plus infection are the forerunners of so-called pyorrhea. Thus it is believed that if proper care is given the children, there is a greater likelihood that susceptibility to contagious disease will be lessened and better general health will prevail throughout life.

Let us take for our maxim a statement made by that famous statesman and novelist, Disraeli. "The public health is the foundation on which reposes the happiness of the people and the power of the country; the care of the public health is the first duty of the statesman." There has never been a time, with the crisis in Europe still undecided, when the need for the conservation of human life was greater than now and this is of inestimable value in the United States.

Dr. Schereschewsky in discussing "Industrial Hygiene" in a recent number of Public Health reports, offers some suggestions which are worthy of repetition and application. As a general means of disseminating knowledge regarding the subject he offers the following plan:

1. Permanent exhibits.
2. Traveling exhibits and moving pictures.
3. Popular lectures.
4. Bulletins by federal, state and municipal authorities and private organizations.
5. Popular articles in the press.
6. Instruction in the public schools.

Now since we have proven to our satisfaction that these conditions are preventable, and since ignorance and carelessness is the cause, then education is the most potent factor in this problem.

While concurring with the above quoted plan I would add that the medical profession as a whole should be familiar with the procedures in preventive dentistry because "the medical profession is generally accepted as the most reliable source of hygienic information." I realize full well that many men in your profession are more keenly alive to the menace of decayed and abscessed teeth in a child's mouth, than a large number of dentists are, and I regret that you do not always secure the co-operation you desire from the latter, but that again is a matter of education, and we will endeavor to improve that condition as time goes on.

To refer again to the educational plan previously mentioned, you are in a position to inaugurate certain measures to carry it out. The Palace of Education at the Panama-Pacific International Exposition, which has for its chief motif

hygiene, built upon the fact that hygiene and sanitation was responsible for the building of the Panama Canal, has proven that some of the most horrible and loathsome pictures of diseased conditions have an educative value, and there is no reason why a section in our museums of natural history should not be devoted to hygiene. Will you propose such a plan in your community?

And as to traveling exhibits, the medical school as well as the agricultural and engineering department of our University are probably in a position to offer something in the way of traveling exhibits which might be given a section in the agricultural demonstration cars traversing the state. I know the dental school will willingly add something to help the cause. Even though this plan of educating the farmer as a producer is of inestimable value there is no reason why hygiene for the farmer should not be taught as well as hygiene for the stock. Are you willing to take the initiative in such a plan?

Popular articles in the press are more often condemned than approved by the profession due mainly to jealousies and a presumption that personal aggrandizement is the main object in writing, yet who is better fitted to present such articles than a member of the profession gifted with an ability to express these ideas in the language of the layman?

We are heaping a burden of responsibility upon the teachers in the public schools and increasing yearly the number of things we believe to be essential to general welfare of the child, yet I feel that the schools offer the best opportunity in the world for the introduction of the subject of oral hygiene. Let the physical welfare of the child be as important as its mental growth. In industrial sanitation it is not an uncommon thing for ordinances and rules to be enacted to prevent the transmission of disease by common carriers; why not enforce dental hygiene as a similar precautionary measure? This work should be taken into the grammar schools, since the largest number of children leave school before the high school period.

Before entering upon a discussion of the economic viewpoint, let me state that in most cities it costs on an average $40.00 per year to educate each pupil; that pupils who are defectives are frequently obliged to repeat a year's work, thus duplicating the cost to the municipality; that excepting heredity and ocular troubles, most of the defectives are such because of diseases which exist or have their origin in mouth, throat and nose, and that from one-fourth to one-half the cost of educating the child would usually restore him to health and vigor and in the majority of cases increase his mental activities, if the work was performed by a municipal employee.

Again a large percentage of the loss of attendance in public schools is due to dental disorders, with its proportionate loss of revenue from the state. If dental clinics were established in the schools the pupils could receive preventive treatment and still be in attendance, so that the ultimate cost to the community would undoubtedly be less than without them.

With regard to dental service from an economic viewpoint, I am going to ask your indulgence by quoting from a paper presented recently before the California Pediatric Society.

Public service by the dentist is purely an economic problem. Whatever the service may be, either preventive or restorative, the question of time is the principal factor. In medical work after the first examination or operation the routine work is usually brief. In dentistry every visit generally requires an equal amount of time to render a given service, and it is because of the number of hours required to perform this service that the dentist is unable to give freely of his time. As compared with the physician, one-half of his time will not produce an income sufficient to build a home, educate his children, and provide for his retiring years, and he is, therefore, unwilling to give a half day, each day, in such service.

The problem must be met by the appointment of full time or part time dental internes at a moderate salary to perform routine work, and a consulting dental surgeon whose judgment and experience may be sought in the unusual cases; their service will have an educative value only through observation and not through instruction.

This plan can be uniformly applied to public school clinics, private dental infirmaries as the Forsyth at Boston, hospitals, department stores, as in the Emporium in San Francisco, etc., and the sooner we make provision for, or urge the establishment of these clinics, the sooner we will reach the children.

The medical profession can materially aid in a movement now being inaugurated in the United States, endorsed by men interested in preventive dentistry but opposed by others, chiefly boards of examiners, who fear that the dental nurse will gradually enter the ranks of the illegal practitioner of dentistry, and that is the inauguration of prophylactic treatment in dental offices by dental nurses, usually women. This plan accomplishes two things—it renders a satisfactory service in preventive dentistry to the dentists' clientele, at regular stated intervals, at less cost than regular dental service, both to children and adults, thus inculcating good habits in mouth hygiene on the part of the patient, and it provides lucrative employment for a better type of women. The dental hygienist, as she is called, confines her work to ordinary scaling and polishing of the teeth. Her duties in no sense involve any risks on the part of the patient except possibly the risk of infection which can be easily met, and she is never entrusted with the responsibilities of the medical nurse as instanced in the use of opiates, in cases of collapse and in obstetrical work. Her greatest field of usefulness is with children, both in private practice and in school and other public infirmaries. The medical profession is in a position to urge the adoption of this plan.

It is hoped that, following the interest manifested by medical men in pyorrheal infections, those interested in research will attack some of the other unsolved mouth problems. Dentists and dental schools are not yet in a position to do much along these lines. The former because present requirements do not provide proper educational qualifications, and the latter have not as yet received such recognition as it manifested in specific endowments.

Let us endeavor to provide the parents with such knowledge as will enable them to render the best service to those in their charge from infancy to maturity, the physician from the period of gestation to adolescence, the teacher during the school period, even in the university, and the dentist during all the time he may come in contact with the mothers and children, in the hope that preventive dentistry will be a future probability.

PRE- AND POST-OPERATIVE CARE.*

By OLGA McNEILE, M. D., Los Angeles.

During the past few years we have all noticed many sporadic attempts to standardize the care of the surgical patient, both before and after operation. The attempts have nearly always failed to elicit any enthusiasm, either because the collaborator had tried to introduce some theoretical methods, or because surgeons as a class lay more emphasis upon operative technique than upon details of pre- and post-operative care. This lack of detail is probably the cause of many poor surgical results.

My plan in this paper is to cover the entire ground of routine pre- and post-operative care in pelvic and abdominal operations upon women. It has been my practice during the past five years to gradually work up a printed order blank, which is left on the patient's chart in the hospital. Enough blank spaces for orders covering individual variations, are left on this record, but in general the treatment is very nearly routine. I shall discuss these routine orders and give reasons for my preferences.

The question of diagnosis is of first importance. Every case must have a complete physical examination, covering head, chest, abdomen and pelvis. Urinalysis is done as routine; blood examination in nearly every case. I do not rely upon a superficial examination of heart and lungs by an anesthetist—he would spend five minutes upon an examination which should require at least thirty. By making this complete examination we find as far as possible, everything which might influence the patient's general health.

We may then proceed to do all the necessary operative work at one operation. Take, for instance, a woman with a chronic appendix. We precede the abdominal work by perineal and cervical repair, if indicated. As soon as abdomen is opened we explore entire cavity, especially the gallbladder, pylorus, stomach and kidneys. If any pathological condition besides the appendix is recognized, the necessary surgical treatment is carried out.

It is surprising to find what a large number of women have had one or more abdominal operations for the relief of pelvic symptoms, when the underlying cause of a great number of them is a relaxation of the pelvic diaphragm. If the abdominal operation is preceded by the necessary repair work, we have a healthy, grateful patient as an end result; if we fail to do this we may have a recurrence of all symptoms, a dissatisfied woman, and a good candidate for Christian Science.

After all preliminary examinations are completed, and the day for operation is fixed, we give the patient the following instructions:

1. Forty-eight hours before entering the hospital take twice the usual dose of your preferred laxative.
2. Limit your diet to fruits, vegetables and cereals. Avoid meat, cheese, nuts, pastry, cake, and alcoholic drinks.
3. Drink from two to three quarts of water daily.
4. Take a hot tub bath each evening.
5. Sleep at least ten hours in twenty-four (if insomnia from nervousness is real, I give bromides).
6. Enter the hospital at least twenty-four hours before the time set for operation.

Pre-operative care of the patient in the hospital.

1. Laxative. If we have obtained good results from the laxative given at home, a soap suds enema is given the patient when she enters the hospital. Generally the patient is given one ounce of castor oil upon admission.

All cases are given enema at least two hours preceding operation, and nurse is instructed to repeat until water returns clear.

2. Posture. Except in temperature cases, patients are not put to bed until the hour of the usual bed time.
3. Diet. Light diet. No breakfast on morning of operation.
4. Hot tub bath early in evening preceding operation (given as much for sedative action as for cleanliness).
5. Local preparation. Shave abdomen or vulva, or both. No scrubbing or other local preparation.
6. Oral hygiene. Paint gums with pure tincture of iodine. This is followed by use of an alkaline mouth wash at three-hour intervals. (All necessary dental work should be done before operation.)
7. Catheterize 15 minutes before being sent to operating room, if patient is unable to void at that time.
8. No opiate is given before operation.

In the operating room.

The anesthetic, ether or gas, is given on the operating table. It is not started until all preparations are complete.

2. Local preparation. For abdominal preparation benzene, followed by full strength tincture of iodine, which in turn is removed with 50% alcohol, is used as routine, while for vaginal or perineal cases 2% tincture of iodine is used.
3. Operative procedure. Post-operative care in-

* Read before the Southern California Medical Society, at Los Angeles, December 1, 1915.